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ARTIFICIAL BREEDING OF THE DOMESTIC FOWL

A thesis presented in partial fulfilment of the requirements for
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I N T R O D U C T I O N .

Topic.

Artificial breeding is an interception of natural mating procedure, by the collection of semen and its retention in vitro before deposition in the female genital tract.

Semen is usually collected after an induced ejaculation into a suitable receptacle, from the engorged copulatory organ situated in the cloaca of the male fowl.

When removed from their first natural environment in the male genital tract and retained in vitro, precautions are needed to preserve spermatozoa function. This is the most artificial phase and the one to which most research has been directed in an attempt to extend semen storage time.

Insemination is the final phase of semen transfer and the techniques for depositing semen in the female genital tract, parallel those used for other species.

A study of artificial breeding in the domestic fowl is presented in this thesis.

Scope of Research.

Three phases of artificial breeding were investigated; semen production and release, semen storage, and artificial insemination.

Semen production was concerned with the ability of cockerels to produce adequate functional spermatozoa. The physiological characteristics of production were measured by age at sexual maturity; increase and persistence of spermatozoa output; semen quality traits such as spermatozoa concentration and the percentage of normal live spermatozoa; and the response to imposed environmental treatments. Semen release was more concerned with the